

A List of Pselaphine Species (Insecta, Coleoptera, Staphylinidae) Collected from Mt. Phia Oac, North Vietnam in 2017 with a Corrected Checklist of the Pselaphine Species Known from Vietnam

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Abstract A list of pselaphine species collected from Mt Phia Oac, Cao Bang Province, North Vietnam in 2017 is present. Collecting data of eighteen pselaphine species are listed up. Three pselaphine species, *Pseudoplectus* sp. 1, *Triomicrus* sp. 1 and *Nomuraius piaoacus* are observed by SEM. A corrected checklist of the Vietnamese species of the subfamily Pselaphinae including 73 genera, 116 species is supplemented.

Key words: Pselaphinae, Staphylinidae, fauna, Vietnam, SEM.

Introduction

This paper firstly presents an annotated list including collecting data of 18 pselaphine species taken from Mt Phia Oac, Cao Bang Province, North Vietnam in 2017, together with the habitus-photos of all collected species, and detailed SEM-photos of 3 species (*Pseudoplectus* sp. 1, *Triomicrus* sp. 1 and *Nomuraius piaoacus*) for identification in species level. After the publication of a list of Vietnamese pselaphine species by Nomura (2013), some newly recorded or newly described Vietnamese species were added, partly by conducting another faunal study of ours (Nomura and Pham, 2019), and partly by unknown papers to us (Kurbatov, Cuccodoro and Ivan Löbl, 2007; Kurbatov and Sabella, 2008).

Thus, second, in this paper, a corrected checklist of the Vietnamese species of the subfamily Pselaphinae including 73 genera, 116 species are also supplemented.

Materials and Methods

The collecting survey was conducted from 19th to 23rd Aug. 2017 at several points of Mt. Phia Oac (= Pia Oac), Cao Bang Province, North Vietnam (Figs. 2A–D), whose geographical position is shown in Fig. 1. The pselaphine specimens were collected by the following methods. 1) Some portable light traps each with a fluorescent tube 4W in the system of Dr. Yuta Nakase (= NLT) were used (Fig. 2E). 2) Other some pselaphines were collected from leaf litter laid on the floor of forests using simplified Winkler apparatus (SWA) (Fig. 2F).



Fig. 1. The location of Mt. Phia Oac on the map of N Vietnam.

For the SEM observation (Figs. 4–5), all specimens were air dried, uncoated, and illustrated with an SEM fit with a digital microscope system (KEYENCE VHX-2000 + VHX-D510) under AV 0.9–2.0 kv. Collected specimens are tentatively preserved in collection of the department of Zoology, National Museum of Nature and Science (NMNS), Tsukuba, Japan.

Results

1) The List of Pselaphine Species Collected from Mt. Phia Oac, North Vietnam in 2017

In Aug. 2017, the first author Nomura visited Mt. Phia Oac (= Pia Oac), Cao Bang Prov., N Vietnam, and collected eighteen species of pselaphines. The second author Pham supported Nomura to collect Pselaphines in Mt. Phia Oac. The annotated list including collecting data of



Fig. 2. Habitats and conditions of the traps in the survey at N Vietnam in 2017. A. A view of Mt. Phia Oac; B. A view of the summit of Mt. Phia Oac; C. A forest view around the summit; D. A view of W (tungsten) mine on the halfway up to Mt. Phia Oac; E. The portable light trap set in Mt. Phia Oac.; F. Simplified Winkler apparatuses used in the survey.

these species are herewith given.

Supertribe Euplectitae

1. Pyxidicerina, gen. and sp. undet 1 (Fig. 3A)

Specimens examined. 1 male, W (: wolfranium

= tungsten) mine, St. A, alt. 1,672m, by SWA, 20. viii.; 1 female, SE slope, St. A, alt. 1,287m, by SWA, 21. viii.

Remarks. The subtribe Pyxidicerina is separated from the other subtribe Bythinnoplectina by having a pair of deep cavities where the maxil-

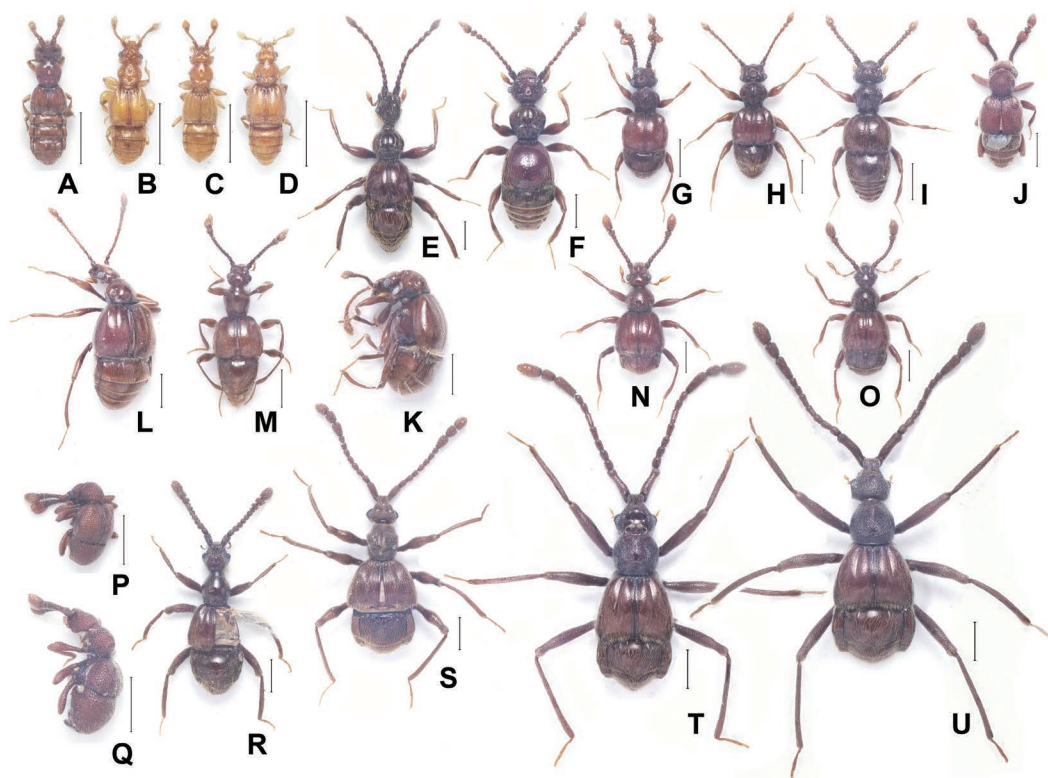


Fig. 3. Photos of pselaphine species collected in the survey. A. Pyxidicerina, gen. and sp. undet 1; B. *Pseudoplectus*? sp. 1, male; C. ditto, female; D. *Trimium*? sp. 1; E. *Intestinarius* sp. 1; F. *I.* sp. 2; G. *Trisinus* sp. 1; H. *T.* sp. 2; I. *T.* sp. 3; J. *Sathytes* sp. 1; K. *Reichenbachia* sp. 1; L. *Trissemus* sp. 1; M. *Batraxis* sp. 1; N. *Triomicrosus* sp. 1, male; O. ditto, female; P. *Plagiophorus* sp. 1; Q. *P.* sp. 2; R. *Pseudophanias* sp. 1; S. *Pselaphodes* sp. 1; T. *Nomuraius piaocacus* Yin et Lee, 2013, male; U. ditto, female.

lary palpi are contracted not on the both lateral sides (Bythinoplectina), but on the frontal side. It is common in Southeast Asia as shown in Nomura *et al.* (2010) (15 spp. from Thailand), and Nomura (2019) (3 spp. from Laos).

2. *Pseudoplectus*? sp. 1 (Figs. 3B–C, 4)

Specimens examined. 1 male, Nr. Summit, St. A, alt. ca 1,900m, by SWA, 22. viii.; 2 females, W mine, St. B, alt. 1,672m, by SWA, 20. viii.

Remarks. This genus is characterized by the very small and elongate body. After the SEM obserbation, the male and the female characters were examined as shown in Fig. 4. The male is easily distinguished from the female by the sexual patch laid on the frons and the strongly thickened mid femur. The male eyes are clearly larger

than those of the females. In both sexes, the pronotum is rounded on both sides, with a pair of basilateral and a basimedial fovea, and a pair of short sulci connecting basilateral and basimedial foveae.

3. *Trimium*? sp. 1 (Fig. 3D)

Specimens examined. 1 female, W mine, St. A, alt. 1,672m, by SWA, 20. viii.

Remarks. The genus *Trimium* is the type genus of the subtribe Trimiina, which is distinct in the tribe Trichonychini by having the antennal club formed only by the terminal segment (antennomere XI).

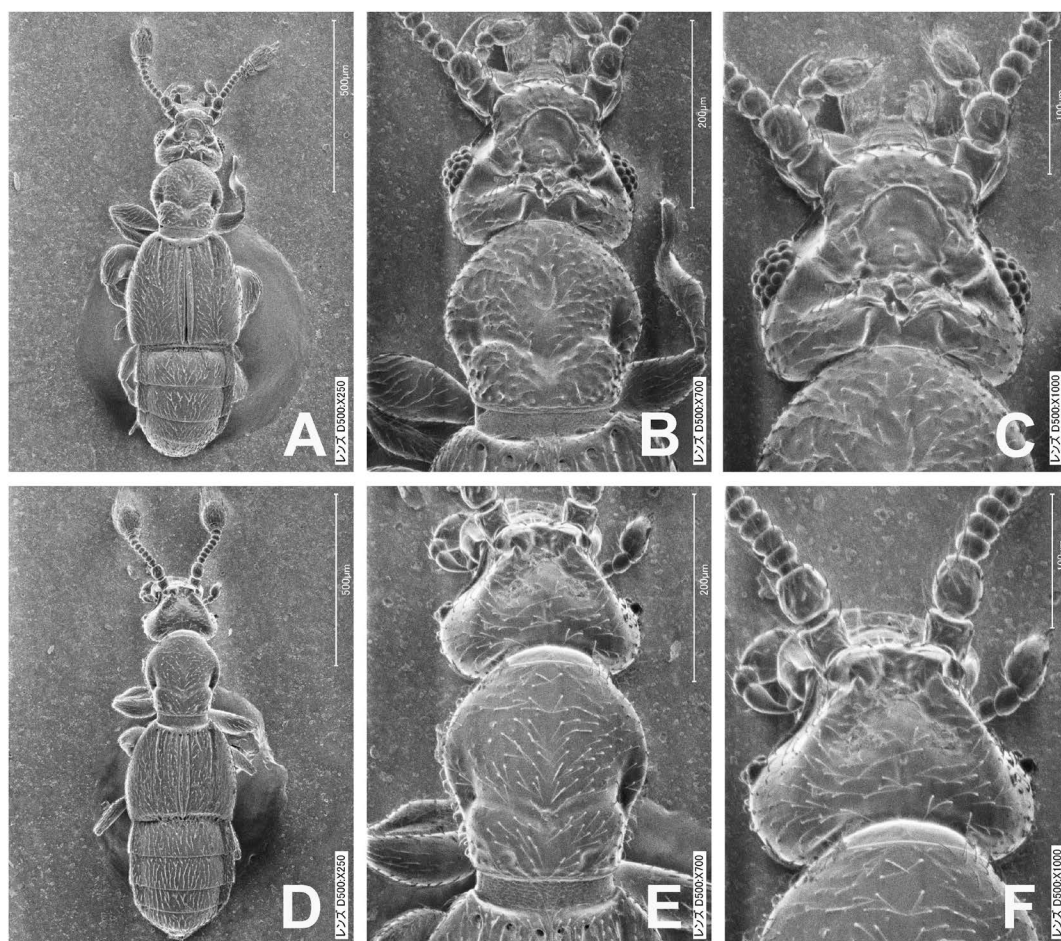


Fig. 4. SEM photos of *Pseudoplectus?* sp. 1. A–C. male; D–F. female. A, D. habitus in dorsal view; B, E. head and pronotum; C, F. head enlarged.

Supertribe Batrisitae

4. *Intestinarius* sp. 1 (Fig. 3E)

Specimen examined. 1 female, W mine, St. B, alt. 1,672 m, by SWA, 20. viii.

Remarks. This genus was defined by Kurbatov (2007) with the type species, *Batrisus quinquesulcatus* Raffray, 1894 known from Singapore and seven new species were described. Later, Yin *et al.* (2011) added three species from China. Then, eleven species have been known in this genus. Although no named species of this genus has been known from Vietnam according to Nomura (2013), some unnamed species are already recognized in Vietnam (Nomura, unpub-

lished).

5. *Intestinarius* sp. 2 (Fig. 3F)

Specimen examined. 1 male, Nr. Summit, St. A, alt. ca 1,900 m, by SWA, 22. viii.

Remarks. This genus is known from China, Laos, Malaysia and Singapore. Two unnamed species collected in Mt. Phia Oac were both collected from high altitude area. This second species is very characteristic in the large head and anteriorly narrowed elytra.

6. *Trisinus* sp. 1 (Fig. 3G)

Specimens examined. 1 male, Mt. Phia Oac, alt. ca 1,600 m, by NLT-LP (1 m above the

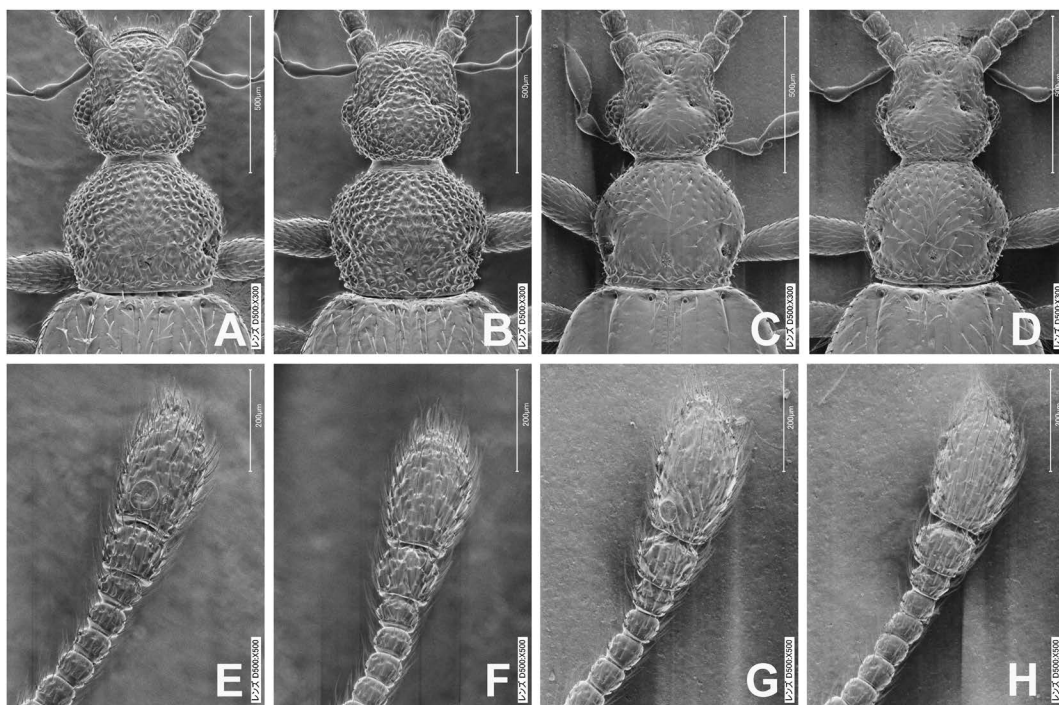


Fig. 5. SEM photos of *Triomiscrus* spp. A, E. *T. vietus* Löbl *et al.* from Mt. Tam Dao, male; B, F. ditto, female; C, G. *T. sp. 1* from Mt. Phia Oac, male; D, H. ditto, female. A–D. head and pronotum in dorsal view; E–H. apical segments of antenna.

ground), 19–20. viii.; 2 females, W mine, St. A, alt. 1,672 m, by SWA, 20. viii.

Remarks. The genus *Trisinus* was established with the type species, *T. cratocerus* Raffray, 1894 collected from Singapore. The east Asian genus *Batrissoplisus* was synonymized with *Trisinus* by Yin *et al.* (2012). In this time, 26 species were included in this genus.

7. *Trisinus* sp. 2 (Fig. 3H)

Specimen examined. 1 female, SE slope, St. A, alt. 1,287 m, by SWA, 21. viii.

8. *Trisinus* sp. 3 (Fig. 3I)

Specimen examined. 1 male, 2 females, Nr. Summit, St. A, alt. ca 1,900 m, by SWA, 22. viii; 1 female, same data as above, but St. B.

9. *Sathytes* sp. 1 (Fig. 3J)

Specimen examined. 1 male, SE slope, alt. 1,287 m, by NLT-LP (1 m above the ground),

21–22. viii.

Remarks. This genus is very characteristic by the thick body densely covered with coarse punctures and strongly modified antennal club in the male. It is broadly distributed in tropical to East Asia and distinctly diversified.

Supertribe Goniaceritae

10. *Reichenbachia* sp. 1 (Fig. 3K)

Specimens examined. 1 male, Mt. Phia Oac, alt. ca 1,600 m, by NLT-HP (4 m above the ground), 19–20. viii.

Remarks. This genus is highly diversified in the Palearctic and Oriental Regions. According to Nomura (2013), four species of this genus has been known from Vietnam.

11. *Trissemus* sp. 1 (Fig. 3L)

Specimen examined. 1 male, SE slope, alt. 1,287 m, by NLT-LP (1 m above the ground),

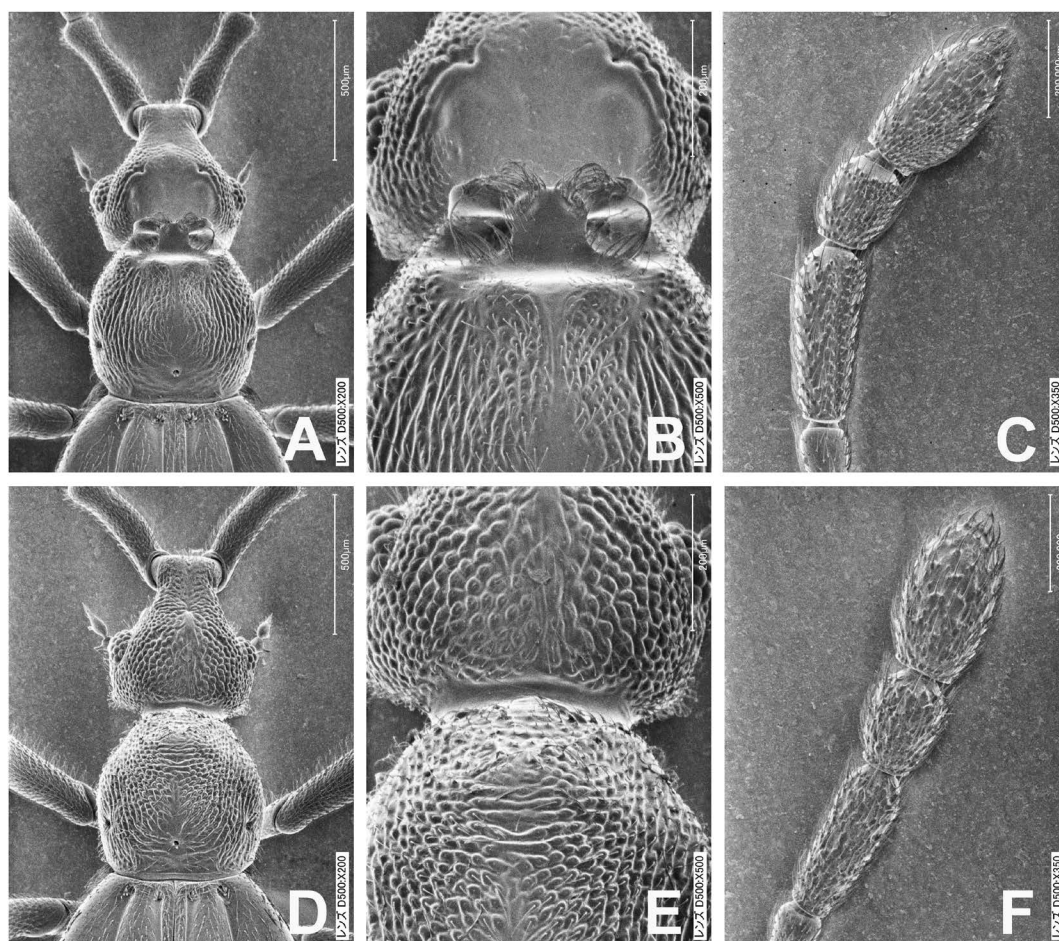


Fig. 6. SEM photos of *Nomurais piaoacus* Yin et Li. A–C. male; D–F. female. A, D. Head and pronotum in dorsal view; B, E. Ditto, enlarged; C, F. antennal club.

21–22. viii.

Remarks. This genus is very closely allied to the former genus, but is separated by having the elytra each with 3 basal foveae. It includes five Vietnamese species according to Nomura (2013).

12. *Batraxis* sp. 1 (Fig. 3M)

Specimen examined. 1 male, SE slope, alt. 1,287m, by NLT-LP (1m above the ground), 21–22. viii.

Remarks. The genus *Batraxis* is easily separated from the other Brachyglutine genera by having the thick and robust body, the slender and sometimes swelling legs and the asymmetrical terminal segment of antenna.

13. *Triomicrus* sp. 1 (Figs. 3N–O, 5C–D, G–H)

Specimens examined. 1 male, SE slope, St. A, alt. 1,287m, by SWA, 20. viii.; 1 female, W mine, St. B, alt. 1,622m, by SWA, 20. viii.

Remarks. This genus is distributed in East to Southeast Asia. As to the Vietnamese fauna one species of this genus, *T. vietus* Löbl *et al.*, 1998 were described from Mt. Tam Dao, Vinh Phu Province, N Vietnam. This species collected from Mt Phia Oac was easily separated from *T. vietus* by the more sparsely and more weakly punctuated head and pronotum as shown in Fig. 4.

14. *Plagiophorus* sp. 1 (Fig. 3P)

Specimen examined. 1 female, W mine, St. A,

alt. 1,622 m, by SWA, 20. viii.

Remarks. This genus is very characteristic in the small, robust and densely punctuated body, the seven- or ten-segmented antenna, and the conjoined abdominal segments III to VII. Two species of this genus were collected from Mt. Phia Oac in this study, both of which have 10-segmented antennae.

15. *Plagiophorus* sp. 2 (Fig. 3Q)

Specimens examined. 1 female, W mine, St. A, alt. 1,622 m, by SWA, 20. viii.; 1 female, Nr. Summit, St. A, alt. ca 1,900 m, by SWA, 22. viii.

Supertribe Pselaphitae

16. *Pseudophanias* sp. 1 (Fig. 3R)

Specimen examined. 1 female, SE slope, St. A, alt. 1,287 m, by SWA, 21. viii.

Remarks. The genus *Pseudophanias* was established for the type species, *P. malaianus* Raffray, 1890 described from Penang Is., Malaysia. It is characterized by the middle- to large-sized and stout body, very small and symmetrical maxillary palpus with fusiform parpomere 4.

17. *Pselaphodes* sp. 1 (Fig. 3S)

Specimen examined. 1 male, SE slope, alt. 1,287 m, by NLT-LP (1 m above the ground), 21–22. viii.

Remarks. This genus is characterized by the very large and broad body and the externally expanded or projected palpomeres 3 and 4, and the metasternum lacking median fovea. It has been known from East, Southeast and South Asia.

18. *Nomurais piaoacus* Yin et Li, 2013 (Figs. 3T–U)

Specimens examined. 1 female, SE slope, St. A, alt. 1,287 m, by SWA, 21. viii.; 1 male, 1 female, same as above, but st. B; 1 male, 1 female, W mine, St. B, alt. 1,622 m, by SWA, 20. viii.

Remarks. The genus *Nomurais* was defined by Hlaváč (2003) with the type species, *N. viet-*

namicus Hlaváč, 2003 described from Mt. Tam Dao, Vinh Phu Province, N Vietnam. It is distinct in the very large body with very long antennae and legs, and the posteriorly prolonged tarsomere 2 of each leg. This species was described by Yin and Li (2013) from Mt. Phia Oac.

2) The Corrected Checklist of the Pselaphine Species known from Vietnam until 2019.

Nomura (2013) listed up 97 spp. in 66 genera of the pselaphine species known from Vietnam. However, it did not cover all known species from Vietnam. Nomura and Pham (2019) corrected the checklist with an addition of fourteen species, and the number of the Vietnamese species became 111. In these inventory works, the important papers, Kurbatov *et al.* (2007) and Kurbatov and Sabella (2008) were still overlooked.

Kurbatov *et al.* (2007) revised the taxonomy of the genus *Morana* and the allied genera in the supertribe Goniaceritae, the tribe Iniocyphini, the subtribe Natypleurina. Four species in 2 genera were added to the Vietnamese pselaphine fauna. Kurbatov and Sabella (2008) taxonomically revised the genus *Atychodea* of the tribe Tychini in the supertribe Goniaceritae. By this paper, they added two new species of *Atychodea* from Vietnam. As the result, 116 species in 73 genera of pselaphines have been known from Vietnam up to the present.

The asterisk used in this species list means as follows:

*: The newly added species by Nomura and Pham (2019).

**: The presently supplemented species.

***: This species was recorded as *Ctenistidius coomani* Jeannel, 1957 in Nomura (2013). However, the genus *Ctenistidius* Jeannel, 1957 was synonymized with *Ctenisoschema* Jeannel, 1956 in Besuchet (2008). This nomenclatural act was overlooked by Nomura (2013).

Tribe Dimerini

Octomicrites bifrons (Jeannel, 1952)

Octomicrus longulus longulus Schaufuss, 1877

Tuberoplectus cucphuongensis Nomura,
2010

Supertribe Euplectitae

Tribe Bythinoplectini

Subtribe Bythinoplectina

Bolbozethus boosteri Coulon, 1982
Zethopsus opacus (Schaufuss, 1877)

Subtribe Pyxidicerina

Pyxidicerinus barbieri Jeannel, 1952

Tribe Trichonychini

Subtribe Bibloporina

Aphilia angusticollis Jeannel, 1952

Subtribe Panaphantina

Bibloplectinus solskyi (Schaufuss, 1877)
Euplectodina hipposideros (Schaufuss, 1877)
Hypoplectus (*Hypoplectinus*) *barbieri* (Jeannel, 1952)
H. (H.) laticollis (Jeannel, 1952)
H. (H.) depressifrons Jeannel, 1957
Methorius truncaticollis Jeannel, 1952
Philipsia obscura Raffray, 1898

Supertribe Batrisitae

Tribe Batrisini

Subtribe Batrisina

Ancistromus longulus Jeannel, 1957
Arthromelodes cariei Jeannel, 1952
A. reichenbachi (Motschulsky, 1851)*
Batricrator trabisoides Jeannel, 1957
Batriscenodes siamensis (Raffray, 1904)
B. excisus (Schaufuss, 1877)
Batriscenites morulus (Reitter, 1882)
Batrisiella barbieri (Jeannel, 1952)
B. micromelus (Jeannel, 1952)
B. coomani (Jeannel, 1957)
Batrisocenus annamita Raffray, 1904*
B. cribricollis Jeannel, 1957
Coryphomodes coomani Jeannel, 1957
Cratna abdominalis Löbl, 1975*
C. cicatricosa Raffray, 1918*
Nenemeca barbieri Jeannel, 1952
Physomerinus septemfoveolatus (Schaufuss, 1877)

Sathytes clavatus (Jeannel, 1957)

Sinotrisus vietnamensis Yin et Nomura,
2012

Supertribe Goniaceritae

Tribe Arnyllini

Harmophorus barbieri (Jeannel, 1952)
Harmophorus ciliatus (Raffray, 1894)

Tribe Brachyglutini

Subtribe Brachyglutina

Atenisodus longicornis (Raffray, 1895)
Barbiera frontalis Jeannel, 1952
Batraxis curvispina Raffray, 1893
B. raffrayana (Blatný, 1925)*
B. variabilis Raffray, 1890.
Berlaraxis coomani Jeannel, 1957
B. punctata Jeannel, 1957
Comatopselaphus parcepunctatus Raffray, 1904
Eupinidius barbieri Jeannel, 1952
Eupines sphaerica (Motschulsky, 1851)
Prosthecarthron sauteri Raffray, 1914
Reichenbachella budha (Raffray, 1891)
R. coomani Jeannel, 1957
R. rufa (Schmidt-Göbel, 1838)
Reichenbachia baumeisteri Schaufuss, 1877
Rybaxis dentipes (Jeannel, 1952)
R. villosa Raffray, 1904*
Triomicrus vietus Löbl, Kurbatov et Nomura, 1998
Trissemus mamilla (Schaufuss, 1877)
T. oblongulus Jeannel, 1957
T. eurycnemis Jeannel, 1957
T. coomani Jeannel, 1957
T. implicitus (Raffray, 1912)

Tribe Iniocyphini

Subtribe Natypleurina

Morana belajevae Kurbatov et Cuccodoro, 2007*: 620 Ma Da, 55 km NE Ho Chi Minh
M. hoplomacha Kurbatov et Cuccodoro, 2007*: 637 Cat Tien, 120 km NNE Ho Chi Minh

M. lucipeta Kurbatov et Cuccodoro, 2007*: 639 Cat Tien, 120km NNE Ho Chi Minh

Nippiliphus napolovi Kurbatov et Cuccodoro, 2007*: 669 Env. Tam Dao, 800m, 55km NNW Hanoi

Tribe Proterini

Bythinoderes marginata Raffray, 1896

Pareuplectops coomani Jeannel, 1957

P. fartor Kurbatov et Cuccodoro, 2009*

P. tenasserimi (Blattný, 1925)*

Tribe Tychini

Atychodea fedorenkoi Kurbatov et al., 2008*: 34 Cat Tien, 120km NNE Ho Chi Minh

A. vicina Kurbatov et al., 2008*: 35 Cat Tien, 120km NNE Ho Chi Minh

Supertribe Pselaphitae

Tribe Pselaphini

Curculionellus setosus Jeannel, 1952

Mentraphus pselaphoides Sharp, 1883

Pselaphaulax bifoveolatus (Schaufuss, 1877)

P. articularis (Schaufuss, 1877)

Pselaphidius multangulus (Schaufuss, 1877)

P. parvipalpis Reitter, 1883

P. pilicollis Reitter, 1882

Pselaphogenius vietnamicus Nomura, 2003

Pselaphus pubescens Raffray, 1904*

Tyraphus testaceus Schauffuss, 1877

T. semiopacus Schauffuss, 1877

T. pilosus Raffray, 1891

T. baeri Raffray, 1891

T. coomani Jeannel, 1957

T. brevicornis Jeannel, 1957

Tribe Hybocepharini

Apharina conicicollis (Schauffuss, 1877)

Mestogaster barbieri Jeannel, 1952

Stipesa cariniventris (Schauffuss, 1877)

S. ampliventris (Schauffuss, 1877)

Tribe Tmesiphorini

Raphitreodes dentimanus (Raffray, 1890)

Tribe Tyrini

Subtribe Centrophthalmina

Centrophthalmina gracilicornis Jeannel, 1952

C. laevis (Raffray, 1896)

Centrophthalmus clementis Schauffuss, 1877

C. herferi Blattný, 1925

C. punctipennis Schauffuss, 1877

C. sinensis Raffray, 1904

Enantius brevipalpis Jeannel, 1952

Subtribe Tyrina

Lasinus mandarinus Raffray, 1890

Megatyrus laqueus Hlaváč et Nomura, 2003

M. conii Hlaváč et Nomura, 2003

Nomurais vietnamicus Hlaváč, 2002

N. piaoacus Yin et Li, 2013*

Paralasinus antennatus Hlaváč et Nomura, 2001

P. humilis Hlaváč et Nomura, 2001

P. namcatienicus Hlaváč et Nomura, 2001

P. thayerae Hlaváč et Nomura, 2001

Sublipalpis myrmecophilus (Raffray, 1904)*

Tyrodes setosus Jeannel, 1957

Tribe Ctenistini

Ctenistes mitis Schauffuss, 1882

Ctenisoschema coomani (Jeannel, 1957)***

Enoptostomus crassicornis (Raffray, 1904)

Poroderus maindroni (Raffray, 1909)*.

Tribe Odontalgini

Odontalgus gracilis Raffray, 1904*

Odontalgus vestitus Schauffuss, 1886

Supertribe Clavigeritae

Tribe Clavigerini

Subtribe Clavigerodina

Microdiartiger thinhi Nomura, 2007

Subtribe Mastigerini

Cerylambus reticulatus (Raffray, 1895)*Mastiger brevicornis* Raffray, 1890*

Tribe Colilodionini

Colilodion thienmu Nomura et Sugaya, 2007

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Literatures Cited

- Besuchet, C. 2008. Synonymies et combinaisons nouvelles, revalidations et description de taxa nouveaux de Pselaphinae (Coleoptera: Staphylinidae). Bulletin de la Société Entomologique Suisse, 81: 61–82.
- Hlaváč, P. 2003. A taxonomic revision of the Tyrini of the Oriental Region. II. Systematic study on the genus *Pselaphodes* and its allied genera (Coleoptera: Staphylinidae: Pselaphinae). Annales de la Société Entomologique de France, 38: 283–297.
- Kurbatov, S. A. 2007. Revision of the genus *Intestinarius* gen. n. from Southeast Asia, with notes on a probable autapomorphy of Batrisitae (Coleoptera: Staphylinidae: Pselaphinae). Russian Entomological Journal, 16: 281–295.
- Kurbatov, S. A., G. Cuccodoro and Ivan Löbl 2007. Revision of *Morana* Sharp and allied genera (Coleoptera: Staphylinidae: Pselaphinae). Annales Zoologici, 57: 591–720.
- Kurbatov, S. A. and G. Sabella 2008. Revision of the genus *Atychodea* Reitter with a consideration of the relationships in the tribe Tychini (Coleoptera: Staphylinidae: Pselaphinae). Transactions of the American Entomological Society, 134: 23–68.
- Nomura, S. 2013. A checklist of the pselaphine species (Coleoptera, Staphylinidae) from Vietnam. Japanese Journal of Systematic Entomology, 19: 233–242.
- Nomura, S. 2019. List of the Pselaphine beetles (Insecta, Coleoptera, Staphylinidae) collected from Central Laos in 2013–2014. Bulletin of the National Museum of Nature and Science, Series A, 45: 61–72.
- Nomura, S. and H. T. Pham 2019. List of Pselaphine species (Insecta, Coleoptera, Staphylinidae) collected by light traps from North Vietnam in 2014 with supplements and corrections to the checklist of Nomura (2013). Bulletin of the National Museum of Nature and Science, Series A, 45: 73–83.
- Nomura, S., W. Sakchoowong, and J. Chanpaisaeng 2010. A list of the pselaphine species (Insecta, Coleoptera, Staphylinidae) collected from the Kaeng Krachan National Park, West Thailand. Bulletin of the National Museum of Nature and Science, Series A, 36: 7–25.
- Yin, Z.-W., and L.-Z. Li 2013. Taxonomic notes on the genus *Nomuraius* Hlaváč (Staphylinidae: Pselaphinae). Revue suisse de Zoologie, 120: 563–573.
- Yin, Z.-W., L.-Z. Li and M.-J. Zhao 2011. On the Chinese species of the genus *Intestinarius* Kurbatov (Coleoptera, Staphylinidae, Pselaphinae). Zookeys, 116: 15–24.
- Yin, Z.-W., S. Nomura and M.-J. Zhao 2012. *Batrisopli-sus* Raffray, 1908, a new synonymy of *Trisinus* Raffray, 1894 (Coleoptera, Staphylinidae, Pselaphinae), with description of three new Chinese species. Zootaxa, 3222: 61–68.